U.S. DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE

DRAFT ENVIRONMENTAL ASSESSMENT

(DRAFT 30 April 2015)

Boat Dock and Fishing Pier at the Refuge Gateway of the Detroit River International Wildlife Refuge

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TABLE OF CONTENTS

Chapter 1: Purpose and Need

1.1 Purpose

In compliance with the National Environmental Policy Act (NEPA), this Environmental Assessment (EA) will assist the Regional Director in the determination of whether to conduct an Environmental Impact Statement on the proposed action of a boat dock and fishing pier at the Refuge Gateway of the Detroit River International Wildlife Refuge. This EA includes an evaluation of the proposed action and reasonable alternatives on environmental, cultural and historical resources sufficient to determine if a Finding of No Significant Impact (FONSI) is warranted or if an Environmental Impact Statement is required.

1.2 Need

A Visitor Center is currently under construction at the Refuge Gateway in Trenton, Michigan and scheduled to open in fall 2016. The Refuge's Comprehensive Conservation Plan calls for allowing fishing to the maximum extent and to specifically offer it at the Refuge Gateway. A site master plan was developed and has been in effect for the Refuge Gateway that calls for a fishing pier to provide a quality free shore-fishing experience, particularly for trophy walleye (Detroit River is part of the "walleye capital of the U.S.). The Detroit River IWR is one of 14 priority urban refuges identified by the Service charged with creating a connected conservation constituency and bringing conservation to cities.

The proposed option of a boat dock and fishing pier at the Refuge Gateway must be evaluated with other alternatives as required by the National Environmental Policy Act of 1969 (NEPA) through an Environmental Assessment. Implementation of the proposed actions will be consistent and compatible with the Refuge Recreation Act, Refuge Administration Act, and the Detroit River IWR CCP.

1.3 Background

The Detroit River IWR was established by an Act of Congress which became Public law 107-91 on December 21, 2001. Section 4 of the Act states the following purposes for the new IWR:

1. To protect the remaining high-quality fish and wildlife habitats of the Detroit River before they are lost to further development and to restore and enhance degraded wildlife habitats associated with the Detroit River

2. To assist in international efforts to conserve, enhance, and restore the native aquatic and terrestrial community characteristics of the Detroit River (including associated fish, wildlife, and plant species) both in the United States and Canada

3. To facilitate partnerships among the United States Fish and Wildlife Service, Canadian national and provincial authorities, State and local governments, local communities in the United States and in Canada, conservation organizations, and other non-Federal entities to promote public awareness of the resources of the Detroit River

Upon establishment in 2001, all lands within the former Wyandotte National Wildlife Refuge were incorporated into Detroit River IWR. The Wyandotte National Wildlife Refuge was established by an Act of Congress known as Public Law 87-119, 75 Stat. 243, 87th Congress, H.R. 1182, dated August 3, 1961: ... "to be maintained as a refuge and breeding place for migratory birds and other wildlife..." Mud Island was added to Wyandotte NWR in January 2001 using the authority to accept donations of real property contained in the Fish and Wildlife Act of 1956 (16 U.S.C. 742f). The islands and shoals of the former Wyandotte NWR retain their original legislative purposes, as well as gaining new ones from the 2001 legislation.

Detroit River IWR currently owns nearly 2,000 acres divided into 13 separate units in southeast Michigan along the Detroit River and western basin of Lake Erie in Wayne and Monroe counties. Over 3,700 acres of additional land are divided into five units managed under cooperative management agreements between the Refuge and other landowners. The Refuge acquisition boundary stretches along 48 miles of Detroit River and western Lake Erie shoreline, from the Rouge River to the Ohio state line. Detroit River IWR is within a 45-minute drive of nearly seven million people in the Detroit Metropolitan Area, the Windsor/Essex County region of Ontario, and the Toledo (Ohio) Metropolitan Area.

Through the Comprehensive Conservation Plan process completed in 2005, all six priority wildlife dependent recreational uses, including hunting, fishing, wildlife observation and photography, and environmental education and interpretation, were found to be compatible with the purpose of the Refuge and Refuge system. Current annual Refuge visitation is less than 10,000, but projected to increase to over 100,000 annually. In addition, the Refuge participates in numerous annual offsite events and programs, including:

- Pointe Mouillee Waterfowl Festival (8,000-10,000);
- Hawkfest at Lake Erie Metropark (5,000-7,000);
- Detroit River Days at the Detroit RiverWalk (over 1,000,000); and
- World Wetlands Day at Gibraltar Carlson High School (2,000).

Public facilities, including a visitor center, bookstore/gift shop, trails, wildlife observation decks, environmental education shelter, and others, would substantially increase visitation and help achieve the Refuge's goal of teaching the next generation of conservationists in this nearly seven million person urban area.

1.4 Decision Framework

This Environmental Assessment is prepared to evaluate the environmental consequences of building a boat dock and fishing pier at the Refuge Gateway. Two alternatives are also presented in this document:

1. Alternative 1 (Proposed Action) – Construction of a 200-Foot fishing pier at the Refuge Gateway

2. Alternative 2 – Construction of two floating docks

3. Alternative 3 – No Action

The Regional Director, U.S. Fish and Wildlife Service, Midwest Region is the official responsible for determining the action to be taken in the proposal by choosing an alternative. He will also determine, based on the facts and recommendations contained herein, whether this Environmental Assessment is adequate to support a Finding of No Significant Impact (FONSI) decision, or whether there is a significant impact on the quality of the human environment from the chosen alternative, thus requiring the preparation of an Environmental Impact Statement (EIS).

1.5 Authority and Legal Compliance

The National Wildlife Refuge System includes federal lands managed primarily to provide habitat for a diversity of fish, wildlife, and plant species. National Wildlife Refuges are established under many different authorities and funding sources for a variety of purposes. The purposes for Detroit River IWR were derived from several federal statutes, including the Migratory Bird Conservation Act, Refuge Recreation Act, and Detroit River International Wildlife Refuge Establishment Act.

In 2005 a Comprehensive Conservation Plan for Detroit River IWR, which involved an Environmental Assessment, was approved. This plan addressed the future management of the Refuge with goals, objectives, and strategies in six categories, including visitor services. One of the goals is to provide a wide variety of wildlife-dependent recreational and educational opportunities to allow the public to enjoy the resources of the Refuge and support the National Wildlife Refuge System. Exposing more people to the Service and the National Wildlife Refuge System and providing increased information through exhibits and interpretive opportunities is a priority for the Refuge.

Today, 80% of the U.S. population lives in urban areas. To help make sure that this urban population values natural areas wildlife conservation and that a priority is placed on developing the next generation of conservationists in urban areas, the U.S. Fish and Wildlife Service has created a new Urban Wildlife Refuge Program. Under this program, the Service has designated 14 priority urban refuges, 14 urban wildlife refuge

partnerships, and many urban bird treaty cities to help make nature part of everyday urban life and cultivate a connected conservation constituency who cares about wildlife. The Detroit River IWR has been designated one of the 14 priority urban refuges working to help develop the next generation of conservationists in cities because that is now where most people live. To learn more about this important work, visit: http://www.fws.gov/urban/index.php

Chapter 2: Description of Alternatives

2.1 Formulation of Alternatives

Alternatives for construction and site location of the boat dock and fishing pier at the Refuge Gateway were developed based on public meetings with stakeholders during the development of the site master plan, internal meetings with key stakeholders, and refuge staff. All took into account the stated goals of the Comprehensive Conservation Plan, the site master plan, and Urban Refuge Initiative attempting to help develop the next generation of conservationists in urban areas because that is now where 80% of all U.S. citizens live. Also factored in were state and federal codes pertaining to ADA regulations.

2.1.1 Alternative 1 (Proposed Action): Construction of a 200-Foot Fishing Pier at the Refuge Gateway

Under this alternative, Wayne County, the U.S. Fish and Wildlife Service, and partners would construct a 200-foot fishing pier at the end of a 775-foot boardwalk off the Refuge Gateway in Trenton, Michigan, consistent with the Comprehensive Conservation Plan for the Detroit River International Wildlife Refuge (Figure 1). Wayne County owns 40 acres of the 44-acre Refuge Gateway, with the remaining four acres owned by U.S. Fish and Wildlife Service for construction of the Visitor Center. The Refuge Gateway is a former automotive manufacturing site that has been cleaned up and restored to meet all applicable state and federal standards for human health and wildlife.

Since acquisition of the property by Wayne County in 2002, the Service, Wayne County, and other partners have completed all recommended environmental cleanup of the site and restored habitats to expand the ecological buffer of Humbug Marsh, and to serve as the future home of the Refuge's headquarters and visitor center. As of 2013, 16 acres of wetlands have been restored, 25 acres of riparian buffer habitat have been restored, 2.5 miles of shoreline at the Refuge Gateway and Humbug Marsh have had invasive *Phragmites* management, and 50 acres of upland habitats in Humbug Marsh have targeted invasive plant removal.

This site is located adjacent to the Refuge's Humbug Marsh Unit that is Michigan's only "Wetland of International Importance" designated under the Ramsar Convention. Humbug Marsh is considered an internationally important wetland because of its ecological importance in the Detroit River corridor and the Great Lakes Basin Ecosystem. It represents the last mile of undeveloped shoreline on the U.S. mainland of the Detroit River and serves as vital habitat for 51 species of fish, over 100 plant species, 154 species of birds, seven species of reptiles and amphibians, and 46 species of dragonflies and damselflies.

The Refuge Gateway and Humbug Marsh have a compelling view of the "Conservation Crescent" (i.e., a series of islands and marshes spanning the lower river), 2.5 miles of

hiking trails, three wildlife observation decks, several wetland boardwalks, interpretive signage in Humbug Marsh, and a kayak landing. The Refuge Gateway is also currently connected with 50 miles of continuous greenways through Downriver communities and has an existing kayak landing that is part of the Detroit Heritage River Water Trail. Gravel access roads have already been constructed, as well as a temporary parking lot. Permanent parking areas for visitors and staff have been identified in the Master Plan to minimize loss of wildlife habitat.

This site is also one of 27 birding sites in the Windsor-Detroit metropolitan area that are featured in the "Byways to Flyways" bird driving tour map produced by the Refuge. It has also been identified as an Important Bird Area (IBA) by National Audubon Society and hosts a Christmas Bird Count. The waters adjacent to the Refuge Gateway and Humbug Marsh are part of the "walleye capital of the world" and boast the national record for the largest walleye ever caught in a Professional Walleye Trail tournament. A boat dock and fishing pier have been designed to enhance public use opportunities like fishing, environmental education, interpretation, and wildlife observation for the nearly seven million people living within a 45-minute drive and many additional non-local annual visitors.

The boat dock and fishing pier will extend 775' into the Detroit River to provide a free, universally accessible, shore-based fishing experience. This alternative includes a 775' boardwalk, a 200-foot fishing pier that can accommodate 80 anglers, a floating dock, seating areas, shade structures, and interpretive signage. Areas accessible from the boardwalk include shallow waters rich with panfish for youth and family fishing, and deepwater access for experienced anglers. The shore-based entrance to the boat dock and fishing pier will allow the public to fish in water depths currently only available to those with a watercraft. Visitation will be enhanced by local sportfishing organizations, like the Downriver Walleye Federation, who plan to use the facility to host annual shore-based fishing competitions.

During the fall, hundreds of thousands of migrating birds of prey fly southwest from Ontario over the lower Detroit River. Standardized annual counts conducted for over thirty years have determined that a stretch of about 6.5 miles, in which the boat dock and fishing pier is included, have the largest concentration in North America of southbound migrating broad-winged hawks anywhere north of sites along the Texas gulf coast. Surprisingly, there are few good spots to view the raptors on this 6.5 mile stretch because trees block larger views of the horizon required for watching migrating raptors. People can only view the raptors well when they fly over Lake Erie Metropark and Pointe Mouillee State Game Area, with no good vantage points to the north where they are actually frequently migrating. The boat dock and fishing pier would allow an expansive view-scape up and down the river from which to enjoy this migration, further building public education, appreciation and access to this phenomenon. This rare annual migration event will connect many more people to the natural world, especially those with less experience in natural areas.

This facility will also give the Great Lakes school ship greater access to the river, allowing for educational programming to use the river and Refuge as a living laboratory for Metropolitan Detroit school children. The school ship hosts vessel-based programming by Michigan Sea Grant for students and adults throughout the region. In total, the school ship has hosted over 87,000 adults and students since the project began in 1991. In 2011, the school ship hosted 5,005 tourists, residents, and students on 166 discovery cruises. Programming includes information on the biology, chemistry, geology, geography and human dimensions of the Great Lakes and Detroit River. Partners involved with the school ship will work to include under-served school systems in programming opportunities.

No changes in refuge regulations would be associated with this project. Some activities might be curtailed during the construction process, but would be reopened after construction.

Figure 1. Preferred alternative for the boat dock and fishing pier to be constructed at the Refuge Gateway in Trenton, Michigan. Note fishing pier is 200 feet long.

2.1.2 Alternative 2: Floating Fishing Platforms Anchored Along the Refuge Gateway Shoreline during Ice-Free Conditions

Under this alternative, Wayne County, the U.S. Fish and Wildlife Service, and partners would construct and install two 25-foot floating fishing platforms along the Refuge Gateway shoreline. Under this alternative, there would be no dock for the Great Lakes School Ship run by Michigan Sea Grant and therefore environmental education programming could not be offered through the Great Lakes school ship at this location. The water depths along the shoreline are very shallow and could not provide the minimum critical water depth of six feet (for the school ship). Further, this alternative would only provide a shore fishing experience for panfish. The deeper waters off the Refuge Gateway and Humbug Marsh are well known as part of the "Walleye Capital of the World" and could not be accessed by the floating fishing platforms. No world-class shore fishing experience for trophy walleye could be offered. Such shallow water pan-fishing would not be consistent with the goal of providing a quality fishing experience that will help inspire the next generation of conservationists in urban areas. The floating platforms would not enhance access to the fall raptor migration.

2.1.3 Alternative 3: No Action

Under this alternative, no construction of a boat dock and fishing pier would occur. The compelling shore-fishing experience envisioned in the Refuge's Comprehensive Conservation Plan and site master plan would not be offered at the Refuge Gateway. The environmental education programming offered by the Michigan Sea Grant's Great Lakes School Ship program would not be offered at this location. An opportunity for making nature part of everyday urban life as called for in the Urban Refuges Initiative would not be realized. A world-class vantage point to view the fall raptor migration would not be available. The opportunity to offer world-class shore fishing for a trophy walleye as part of a strategy to help develop the next generation of conservationists in urban areas, because that is now where 80% of all U.S. citizens live, would not be realized.

2.2 Summary of Alternate Actions Table

Actions	**Alternative 1 (Preferred)**	**Alternative 2 (Floating Docks)**	**Alternative 3 (No Action)**
Enhanced Shore Fishing for Walleye	Yes	No	No
Enhance Shore Fishing for Panfish	Yes	Yes	No
Meet ADA Codes	Yes	No	No
Increased Visitation	Yes (substantially)	Yes (but not as great as Alternative 1)	No
Provide Docking Space for the Great Lakes School Ship	Yes	No	No
Increased Environmental Educational Opportunities Through Michigan Sea Grant's Great Lakes Education Program	Yes	No	No
Enhanced Wildlife Observation Opportunities	Yes	No	No
Consistency With Urban Refuges Initiative Standards	Yes (substantially)	Yes (limited)	No

Chapter 3: Affected Environment

3.1 Geographic Setting

Detroit River IWR lands are located in Wayne and Monroe Counties in southeast Michigan. Prior to rapid anthropogenic alteration of the Detroit River and Lake Erie shorelines starting during European settlement (17th and 18th Centuries), the western Lake Erie shoreline consisted of open water shallow zones, followed by emergent wetlands of bulrushes and cattails with dynamic water levels, and transitioning to grassy zones dominated by bluejoint grass and sedges with forested wetlands. The Refuge contains lands that are part of freshwater deltas, drowned river mouths, and channelside wetlands. In the past, interior hardwood swamps and "flatwoods" were mosaicked further interior with prairies underlain by sand over clay where hydrology was continually re-engineered by beavers. Fire was common in these prairies. Remnant patches of these former ecological features exist today in an altered, but very functional form that is critical to preservation of species in the region. Today, most of the shoreline is hardened with rock and concrete with the vast majority of wetlands drained for urban development and agriculture. There are numerous communities including Trenton, Gibraltar, Rockwood, Estral Beach, Frenchtown, Monroe, and Erie. The remaining areas of unhardened shoreline containing plant and animal species adapted to the current western Lake Erie environment are held in State or Federal ownership as conservation land. Humbug Marsh is rare in that it has never been fully developed and exhibits a large amount of these ecological features in one location.

3.2 Socioeconomic Setting

The regional population is nearly seven million, so the economic landscape is complex and varies geographically. The site is located in Trenton, Michigan, but the City of Gibraltar and Grosse Ile Township are immediately adjacent. The 5-year estimates from 2006-2010 of median household income are as follows: Trenton (54,841); City of Gibraltar (60,250); Grosse Ile Township (81,118); Wyandotte (50,065); City of Monroe (42,673); Frenchtown Township (52,111); and Monroe Township (46,718). (U.S. Census Bureau 2012). The City of Detroit is 25 miles from the site with an estimated 5-year median income of 28,357. The immediate residents in the City of Trenton are 93.1% non-hispanic white, 1.3% African American, 0.5% Native American, 0.7% Asian, and 3.2% Hispanic or Latino. Michigan's median income is 48,432. The State contains 76.6 non-hispanic white, 14% African American, 0.6% Native American, and 2.4% Asian and 4.4% Hispanic or Latino. Based on these most recent census data, there are no disproportionate minority or low income populations in the immediate project vicinity.

There is a high demand for access to Refuge land for compatible recreational uses. FLW Outdoors, one of the largest tournament fishing organizations in the world, has traditionally scheduled major bass and walleye tournaments offering up to $1.5 million in prize money. In addition, the Professional Walleye Trail has offered Walleye Tour events on the Detroit River. All of these tournaments are economically important to local

businesses. The Downriver Walleye Federation annually hosts numerous tournaments in the Detroit River and Lake Erie. Many local businesses specialize in bait, tackle, and boat merchandise and charter fishing and hunting companies are available throughout the year. Waterfowl hunting is heavy on nearby state land and at the mouth of the Detroit River and Lake Erie.

Wildlife viewing, especially birdwatching, has become increasingly important in drawing visitors to the area's public lands. The Refuge is recognized as one of the best sites in North America to watch raptor migration. Passerine and waterbird migration is heavy during spring and fall, drawing birders into the region to see migration fallouts, hawk kettles, and specific species such as Swainson's hawk and golden eagle.

3.3 Ecological Communities on the Refuge Gateway and Humbug Marsh

Humbug Marsh, of which approximately 185 acres is shallow shoals or Great Lakes coastal marsh, is important spawning habitat for many fish species found in the Detroit River and western Lake Erie. Complex and diverse plant and animal communities are associated with this shallow shoal area dominated by wild celery (*Vallisneria* sp.), pondweeds (*Potomogeton* sp.), muskgrass (*Chara* sp.), and other aquatic plants. The food web in these areas includes important commercial and sport fish, whose fry are dependent upon the organisms associated with periphyton. These areas are especially critical to bowfin (*Amia calva*), pumpkinseed (*Lepomis gibbosus*), bluegill (*Lepomis macrochirus*), largemouth bass (*Micropterus salmoides*), northern pike (*Esox lucius*), longnose gar (*Lepisosteus osseus*), and golden shiner (*Notemigonus crysoleucas*). Especially abundant in the spring are walleye (*Sander vitreus*) that migrate north up the Trenton Channel and white bass (*Morone chrysops*). Insect hatches, especially mayflies (Ephemeroptera) are important in these areas and are a critical part of the food web. Furthermore, the productive shoal habitats like Humbug Marsh are important stopover habitat for migratory birds, including a high proportion of the continental population of canvasback (*Aythya valisineria*), redhead (*Aythya americana*), American black duck (*Anas rubripes*), and lesser (*Aythya affinis*) and greater scaup (*Aythya marila*) in the offshore areas and northern pintail, bufflehead, mallards, teal, geese and others in the aquatic beds closer to shore.

In the emergent marshes, communities of plants and animals are highly influenced by Great Lakes abiotic processes of frequent water level fluctuation, sediment and seed transport, and chemical cycling. Most emergent wetlands of the Refuge lay on top of shallow clay soil, creating very anoxic conditions near the surface further influencing ecological succession. In general, emergent wetland zones of Humbug Marsh are dominated by cattail (*Typha* sp.), reed (*Phragmites australis*), and river bulrush (*Bolboshoenus fluviatilis*) with associates being arrowhead (*Saggitarria* sp.), bur-reed (*Sparganium* sp.), bulrush (*Scirpus* sp.), and rushes (*Juncus* sp.). Muskrats (*Ondatra zibethicusare*) are an important natural disturbance in these emergent wetlands by feeding on vegetation. Other important animals include many amphibians and reptiles, including

northern leopard frog (*Rana pipiens*), northern water snake (*Nerodia sipedon*), garter snakes (*Thamnophis*), and turtles.

Wet prairie zones are the most species rich areas on Refuge land. These areas are dominated by warm and cool season grasses, including bluejoint grass (*Calamagrastis canadensis*) and reed canary grass (*Phalaris arundinacea*). Plant associates in these areas include Ohio spiderwort (*Tradescantia ohiensis*), marsh fern (*Thelypteris palustris*), sensitive fern, (*Onoclea sensibilis*) marsh rose mallow (*Hibiscus palustris*), water hemlock (*Cicuta maculata*), blue vervain (*Verbena hastata*), ironweed (*Vernonia*), goldenrods (*Solidago*), and numerous species of sedges (*Carex*) and bulrushes (*Juncus*). Two known wet prairie areas exist at Humbug Marsh at the southwest area of Humbug Island and adjacent to the Monguagon delta. The composition of these areas are dependent upon the amount and duration of perched water on top of the lakeplain soils during the spring and summer growing season. These wet prairies s have complex food webs with important plant-animal interactions that promote a high level of use by larger wildlife, especially reptiles, migratory birds, mink (*Neovison vison*), fox (*Urocyon cinereoargenteus*, *Vulpes vulpes*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), and white-tailed deer (*Odocoileus virginianus*). These zones are important for eastern fox snakes (*Elaphe gloydi*), which are endemic to western Lake Erie. In appropriate soil and moisture conditions, forested wetlands have developed on much of Humbug Marsh and are dominated by silver maples (*Acer saccharinum*), ashes (*Fraxinus*), elms (*Ulmus*), and swamp white oak (*Quercus bicolor*). These forested wetlands are heavily used by rusty blackbirds (*Euphagus carolinus*), which migrate through the Refuge in an extremely constricted corridor of the Detroit River and western Lake Erie.

Much of the upland area of Humbug Marsh are former hayfields in different stages of forest succession which are dominated by smooth (*Cornus amomum*) and rough-leaved dogwood (*Cornus drummondii*), hawthorns (*Crataegus*), ashes, and elms. During the 20th century, most of Humbug Marsh was pasture and a storage area for military fleets during World War II. In these areas, forest communities developed after military operations and haying ceased in the 1940s and 1970s, respectively. The re-growing forest was brush-hogged in preparation for development in December of 1998 with approximately 40 acres left undisturbed on the mainland. The uncut areas contain oaks dating to the 18th century. The forest type is a "flatwoods", which occur in low-relief poorly drained mineral soils on glacial lake plain creating vegetative mosaics from the differing degrees of standing water in concert with light availability, so that oak and hickory (*Carya*) dominates drier areas, while ash, elm, and red oak (*Quercus rubra*) and swamp white oak comprise the areas where water is perched longer in the spring. A diverse spring flora occurs in these areas and sustains highly structured food webs in these forest communities. Finally, Humbug Marsh contains a number of silty clay hill tops in comparison with the surrounding lowlands. These areas have pre-European settlement white oaks that apparently grew most of their life in an open prairie-like or agrarian/pastoral landscape. These "wolf trees" are relicts of a historically open landscape along the Detroit River shoreline that is long-gone.

3.4 Plant Communities of the Refuge Gateway and Humbug Marsh

The Refuge contains 1-6 foot deep open water environments of Detroit River and western Lake Erie with communities composed of *Potomogeton, Vallisneria, Chara, Heteranthera, Ceratophyllum, Najas, Elodea,* and others. Local processes determine species composition such as current speed, substrate, light availability, turbidity, temperature, pollutants and other plant associates.

Refuge emergent wetland communities are diverse depending on hydrological processes, soil, ice scour, and the ability of invasive species to colonize. The Monguagon delta of Humbug Marsh exhibits low flow-through, but relatively high water level fluctuation that currentlypromote river bulrush (*Bolboshoenus fluviatilis*), *Schoenoplectus tabernaemontani,* and *Juncus effusus* with heavy colonization by *Typha* X*glauca* and *Phragmites,* but control efforts have reduced coverage of these species in the last few years.

The wet prairie zones at Humbug Marsh are dominated by blue-joint grass, reed canary grass, *Carex* (*C. lacustris, C. vulpinodea,* etc.) and are generally void of many trees because of the extreme hydrologic range from wet spring conditions to summer drought. Rough-leaved dogwoods do establish in some areas. Invasive European black alder (*Alnus glutinosa*) is common and have been eliminated by Refuge staff within the wet prairie zones.

Forest communities range widely in disturbance history and in invasive species establishment. Some communities on more drained sites are dominated by oak and hickory with associates of basswood, cherry, and walnut. The understory of Humbug Marsh is dominated by a mix of woodland grasses (e.g., *Leersia oryzoides, Glyceria striata*) and *Carex* (*C. blanda, C. cephalaphora, C. molesta, C. pennsylvanica,* etc.) with *Polygonum, Ranunculus, Impatiens,* etc. Humbug Marsh contains numerous canopy black walnuts that inhibit woody plant growth underneath them with the understory dominated by cool season grasses (e.g., orchard grass and panic grass) with associates of blue-eyed grass, ironweed, goldenrods, roses, raspberries, and wild bergamot.

3.5 Animal Communities of the Refuge Gateway and Humbug Marsh

3.5.1 Fish

Fish at and near the proposed boat dock and fishing pier site are diverse (Table 1). Fish species found at the site include bluegill (*Lepomis macrochirus*), largemouth bass (*Micropterus salmoides*), longnose gar (*Lepisosteus osseus*), pumpkinseed (*Lepomis gibbosus*), rock bass (*Ambloplites rupestris*), smallmouth bass (*Micropterus dolomieu*), yellow perch (*Perca flavescens*), and many catostomid and cyprinid species. The diversity of habitats makes many shallow water zones critical for spawning and nursery for many species. Additionally, the construction of a boat dock and fishing pier has potential to increase this already diverse fish community (Beauchamp et al. 1994).

Table 1. Fish species (adult and juvenile), fish eggs, and larval fish collected at and near (within 1.75 km for adult and juvenile fish and fish eggs and within 2.5 km downstream for larval fish) the proposed boat dock and fishing pier site. Gears used to collect fish included boat electrofishing, fyke nets, gill nets, minnow traps, and seines. Fish eggs were collected with egg mats and larval fish were collected with bongo nets. Adult and juvenile fish were collected by the U.S. Fish and Wildlife Service and Michigan Department of Natural Resources and eggs and larval fish were collected by the U.S. Geological Survey.

	Fish Species Collected at Fishing Pier Site	Fish Species Collected Near Fishing Pier Site	Fish Eggs Collected Near Fishing Pier Site	Larval Fish Collected Near Fishing Pier Site
Banded killifish	X	X		
Black bullhead	X	X		
Bluegill	X	X		
Bluntnose minnow	X	X		
Bowfin	X	X		
Brook silverside	X	X		X
Brown bullhead	X	X		
Burbot				X
Carproides spp.				X
Catostomidae spp.				X
Centrarchidae spp.				X
Cisco				X
Clupeidae spp.				X
Cyprinidae spp.				X
Common carp	X	X		
Common shiner		X		
Deepwater sculpin				X
Emerald shiner	X	X		
Freshwater drum		X		
Gizzard shad	X	X		X
Gobiidae spp.				X
Lepomins spp.				X
Golden shiner	X	X		
Goldfish	X	X		
Green sunfish	X	X		
Longear sunfish		X		
Lake whitefish			X	
Largemouth bass	X	X		
Logperch		X		X
Longnose gar	X	X		
Mimic shiner	X	X		
Morone spp.				X
Moxostoma spp.				X

Muskellunge		X		
Northern hogsucker				X
Northern pike		X		
Percidae spp.				X
Pomoxis spp.				X
Pumpkinseed	X	X		
Quillback	X			
Rainbow darter		X		
Rainbow smelt		X		X
Rock bass	X	X		
Round goby	X	X		X
Sand shiner	X	X		
Shorthead redhorse		X		
Silver redhorse		X		
Smallmouth bass	X	X		
Spotfin shiner	X	X		
Spottail shiner	X	X		
Spottail sucker				X
Striped shiner	X			
Threespine stickleback		X		
Trout-perch				X
Tubenose goby	X	X		
Walleye		X	X	X
White bass	X	X		
White perch	X	X		
White sucker		X		X
Yellow bullhead	X	X		
Yellow perch	X	X		X

3.5.2 Mammals

No mammal surveys have been conducted at Humbug Marsh.

3.5.3 Birds

The aquatic plant beds of Humbug Marsh are critical stopover habitat for spring and fall migrating canvasback, redhead, scaup, and tundra swans. The fall migration of migratory birds, and especially raptors, has been well known for decades. Each year, approximately 150,000 or more raptors are counted from the Detroit River Hawk Watch, a joint project between the Refuge and its Friends' Group, the International Wildlife Refuge Alliance. Humbug Marsh in particular provides unusually high quality bird-watching in spring and fall. Spring migration has large species diversity from regularly passing common loons and large flocks of northbound Bonaparte's gulls in March and April to dozens of species

of neotropical migrants fueling on emerging foliage of oaks, hickories, elms, and ashes in May. Fall migration is characterized by days of high volume passages of waterbirds, raptors, and songbirds all influenced by the geography of the lower Detroit River, being seen at Humbug Marsh Unit as they pass south or southwest. Rusty blackbirds are abundant during migration at Humbug Marsh and can be seen in the thousands during peak migration in March and again in October through November.

3.5.4 Reptiles and Amphibians

Humbug Marsh contains American toads, northern leopard frogs and western chorus frogs. Turtles likely include midland painted turtle, common snapping turtle, common map turtle, eastern spiny softshell, and Blanding's turtle. Snakes include eastern fox snake, northern water snake, eastern garter snake, and Butler's garter snake.

3.5.5 Insects

The Rouge River Bird Observatory has surveyed the dragonflies, damselflies, and butterflies at Humbug Marsh and the Refuge Gateway (Craves 2008). Forty-six species of Odonata were recorded in 2007 and 2008: fifteen species of damselflies and 31 species of dragonflies.There have been 38 species of adult butterflies and skippers identified at Humbug Marsh.

3.6 Federally Threatened and Endangered Species

The Indiana bat *(Miotis sodalis)* and the northern riffleshell *(Epioblasma torulosa rangiana)* are two Federally endangered species that have the potential to be on the Refuge in the future, but are not currently known to be present. The eastern prairie fringed-orchid (*Platanthera leucophaea*) and northern long-eared bat (*Myotis septentrionalis*) are Federally threatened. The orchid is known to occur only at Pointe Mouillee State Game Area and Cedar Point and Ottawa National Wildlife Refuges at this time. The bat is not known to occur and would only occur in very small numbers. The rayed bean *(Villosa fabalis)* and eastern massasuaga (*Sistrurus catenatus)* are candidates for listing under the Endangered Species Act that have the potential to be on the Refuge, but are not currently known to be present.

Indiana Bat (*Myotis sodalist*) – Endangered

The range-wide population of the Indiana bat has declined by nearly 60% since it was listed as endangered in 1967. Several factors have contributed to its decline, including the loss and degradation of suitable hibernacula, human disturbance during hibernation, pesticides, forest fragmentation, and particularly, loss of forest stands with large, mature trees.

Indiana bats may summer in a wide range of habitats, from agricultural landscapes to intact forests. Female Indiana bats exhibit strong site fidelity to summer roosting and foraging areas, tending to return to the same summer range annually to bear their young.

These traditional summer sites are essential to the reproductive success and persistence of local populations.

Indiana bats are known to use a wide variety of tree species for roosting, but structure (i.e., crevices or exfoliating bark) is probably most important in determining if a tree is a suitable roost site. Roost trees are generally dead, dying or live trees (e.g., shagbark hickory [*Carya ovata*] and oaks [*Quercus*]) with peeling or exfoliating bark which allows the bat to roost between the bark and bole of the tree. Indiana bats will also use narrow cracks, split tree trunks and/or branches as roosting sites. Southern Michigan maternity roost trees are typically in open areas exposed to solar radiation. Roost trees vary considerably in size, but those used by Indiana bat maternity colonies usually are large relative to other trees nearby and typically greater than 9 inches in diameter. Male Indiana bats have been observed roosting in trees as small as 3 inches in diameter.

Northern Riffleshell (*Epioblasma torulosa rangiana*) – Endangered

The northern riffleshell is a mussel occupying suitable habitat in less than 5% of its former range. Dams and reservoirs have flooded most of this mussel's habitat, reducing its gravel and sand habitat and probably affecting the distribution of its fish hosts. Reservoirs act as barriers that isolate upstream populations from those downstream. Erosion caused by farming has added silt to many rivers, which can clog the mussel's feeding siphons. Other threats include pollution from agricultural and industrial runoff. Toxic organochlorine compounds have become concentrated in the body tissues of filter-feeding mussels. Zebra and quagga mussels (*Dreissena polymorpha* and *D. rostriformis*), non-native species that have established themselves throughout the Great Lakes and the eastern U.S., also pose a threat. They attach in great numbers to native mussels. This mussel is found in a wide variety of streams. It buries itself in bottoms of firmly packed sand or gravel with its feeding siphons exposed. Reproduction requires a stable, undisturbed habitat and a sufficient population of host fish to complete the mussel's larval development.

The northern riffleshell historically occurs in three streams within the Refuge acquisition boundary:

- Detroit River in Wayne County;
- Huron River in Wayne and Monroe County; and
- River Raisin in Monroe County

Eastern Prairie Fringed (*Orchid Platanthera leucophaea*) – Threatened

The eastern prairie fringed-orchid occurs in remnant patches of lakeplain prairie where trees and shrubs are prohibited from establishing. The Refuge currently exhibits some small areas of potentially suitable habitat for eastern prairie fringed-orchid, but it is not currently known to be present. Current water levels would make discovery more likely in specific locations within the Humbug Marsh Unit (Island only), Strong Unit, Fix Unit, Brancheau Unit, and Gibraltar Wetlands Unit. These units have some areas that combine lacustrine soil with high seasonal fluctuation of water levels and suitable plant

communities dominated by bluejoint grass (*Calamagrostis canadensis*), *Scirpus*, *Typha*, and *Juncus*. Some of these areas are currently dominated by a non-native haplotype of reed (*Phragmites australis*) and more habitat may be possible after ecological restoration is conducted.

The most recognized threat to eastern prairie fringed-orchid is competitive encroachment of shrubs and trees in open, wet prairie habitat. Similarly important to its survival is maintenance of suitable hydrological conditions; perched water in spring discourages competing species and maintains a moist mineral surface from which the plant will germinate (Penskar and Higman 2000). When water levels rise along Lake Erie and the Detroit River, landward refugia are needed so that the species is able to seed and germinate inland until water levels recede and plants can reestablish shoreward.

Northern long-eared bat (*Myotis septentrionalis*) – Threatened

Since listing as threatened in April 2015, the northern long-eared bat population has declined very significantly in the core part its geographic range due to White Nose Syndrome (WNS). Hibernacula in this core range, including most of the Northeastern United States, have experienced a 99% decline in northern long-eared bats. WNS is expected to spread throughout the rest of the species range, which includes much of the eastern and north central United States, and all Canadian provinces from the Atlantic Ocean west to the southern Yukon Territory and eastern British Columbia. WNS could have a similarly acute impact on the population of northern long-eared bat in the rest of the species range.

Several additional factors have contributed to its decline, including the loss and degradation of suitable hibernacula, human disturbance during hibernation, pesticides, fragmentation of forest habitat, and loss and degradation of forested habitat, particularly stands of large, mature trees, and wind farms. An interim rule under the authority of section 4(d) of the Act provides measures that are necessary and advisable to provide for the conservation of the northern long-eared bat.

Species of *Myotis* are uncommon in lower Michigan. Those that would be present in and around Refuge land are presumed to hibernate in caves in Kentucky and Indiana. This generally exceeds the distance most *Myotis* migrate each spring (approx.. 350 miles).

The proposed project does not impact any forest lands nor is expected to impact trees any existing trees on the shore.

Rayed Bean (*Villosa fabalis*) – Candidate

Extant populations of the rayed bean are known from 22 streams and a lake in five states, including Michigan and Ohio. The rayed bean appears to be declining range-wide and has been eliminated from 78% of the total number of streams and other water bodies from which it was historically known.

The rayed bean is considered to be very uncommon and of sporadic occurrence and has only been known to occur within the Refuge acquisition boundary in the lower Huron River.
This mussel is generally known from smaller, headwater creeks. They are usually found in or near shoal or riffle areas, and in the shallow, wave-washed areas of glacial lakes including Lake Erie. Substrates typically include sand and gravel. Threats to the rayed bean can include agricultural runoff and sedimentation.

Eastern Massausaga (*Sistrurus catenatus*) – Candidate

The current range of the eastern massasauga covers portions of ten states including much of the lower peninsula of Michigan. Throughout its range, this snake has declined primarily due to habitat loss and persecution.

Although there are no reports of massasauga sightings in the Refuge, they have been reported to exist in a number of habitat types found near the Refuge; namely, wet prairie, meadows, and old fields. Preferred habitats tend to have a generally open vegetative structure of grasses or sedges relative to surrounding areas. Sphagnum is often an important component of the substrate. Sites include thinly distributed trees and shrubs and are typically associated with shallow wetland systems. Massasaugas may show seasonal shifts in habitat use, moving to drier sites in the summer. This species is associated with saturated soils and crayfish burrows during hibernation.

3.7 Cultural Resources

The Michigan Office of the State Archaeologist (MOSA) Inventory Files for the Refuge Gateway site indicates there are no recorded archaeological sites. The Refuge Gateway site was graded and filled in the 1930s and early 1940s. The eastern two-thirds of the site is comprised of introduced fill into wetlands adjacent to the Detroit River. Because the site is mainly fill, was an automotive plant and cleaned up and capped to meet human health and safety standards, there is likely to be no archaeological or cultural resources. Eleven sites south of the Refuge Gateway, including Humbug Marsh, required Phase 2 archaeological investigations out of 17 prehistoric and three historic sites after an initial Phase 1 investigation in 1999. None of the eleven sites qualified for listing in the National Register of Historic Places.

Cultural resources are important parts of the Nation's heritage. The Service is committed to protecting valuable records of human interactions with each other and the landscape. Protection is accomplished in conjunction with the Service's mandate to protect fish, wildlife, and plant resources.

3.8 Recreational Opportunities

A complete review of future public uses is being addressed in the Visitor Services Plan. Currently, Humbug Marsh is open to the public during scheduled events and programs when Refuge staff are available. Hunting is allowed on the Refuge, following the

Hunting Chapter of the Visitor Services Plan. In general, as described in the Comprehensive Conservation Plan, public uses at the Humbug Marsh mainland to be considered include: a combination of hiking interpretative trails, wildlife viewing and photography areas, archery and waterfowl hunting, environmental education stations, visitor center with exhibits, and special seasonal wildlife programs. Some proposed areas for hunting may not be available for other public uses.

Hunting opportunities proposed on the Detroit River IWR already exist on state lands in Monroe County. Currently, Monroe County has nearly 9,265 acres of State land open for hunting of big game, small game and migratory birds. These lands offer a wide range of outdoor recreational opportunities in the form of state parks, game areas, and state recreation areas. The Huron-Clinton Metropolitan Authority manages the Metroparks which comprise thirteen individual parks and 24,000 acres of public land. These lands offer the most widely available outdoor recreation with bike paths, fishing opportunities, and boating. Other publicly accessible land is available through universities, non-profit organizations, and local governments, although limited in hunting and fishing opportunities.

Chapter 4: Environmental Consequences

4.1 Alternative 1(Proposed Action): Construction of a 200-Foot Fishing Pier at the Refuge Gateway

4.1.1 Habitat Impacts

The boat dock and fishing pier (Figure 1) would be constructed at the Refuge Gateway – a former brownfield with fish and wildlife habitat restored on the surrounding landscape through hydrological restoration (daylighting of the Monguagon drain with retention basin and emergent wetland), construction of a wetland shelf on the historically human-filled shoreline, and upland forest and prairie rehabilitation. These habitat restorations will enhance the proposed fishing experience.

The total amount of bottomlands impacted by the piers and dike that make up the boardwalk and fishing pier is 0.18 acres. Through the entire Refuge Gateway master plan, a total of 16 acres of wetlands have been restored on site (in an area that has lost 97% of its coastal wetland habitat) and 25 acres of riparian buffer habitat have been restored, representing a substantial net gain in aquatic habitat. Further, around the base of the 200-foot fishing pier, seven feet of riprap will be placed to enhance lithophilic-spawning fish habitat. In total, 3,206 square feet of new spawning habitat for lithophilic-spawning fishes will be created through selection of this alternative.

4.1.2 Biological Impacts

Biological impacts will be minimal since through the implementation of the site master plan there has been a substantial net gain of habitats to support critical life history stages

of fish and wildlife populations. The cleanup up and restoration of the Refuge Gateway represents an expansion of the ecological buffer of Michigan's only Wetland of International Importance under the international Ramsar Convention – Humbug Marsh. All habitats of the adjacent Humbug Marsh Unit will remain undisturbed and have been partially restored through invasive species control and careful stewardship. Refuge staff and partners continue to rehabilitate the habitats around the proposed boat dock and fishing pier which will further increase the ecological health of the area. This work includes invasive species control and forest management through mechanical and may include prescribed fire, which is employed according to specific goals. Some areas are managed to restore, to the greatest extent possible, natural communities. These are defined as assemblages of interacting plants, animals, and other organisms that repeatedly occur under similar environmental conditions across the landscape and are predominantly structured by natural processes rather than modern anthropogenic disturbances (Kost et al. 2007). Others that are more permanently altered will be rehabilitated to meet multiple biodiversity and public use objectives.

4.1.3 Listed, Proposed, and Candidate Species

No listed species are known to occur on the Refuge.

4.1.4 Public Use

There are currently no comparable shore fishing opportunities in the immediate area. The Great Lakes School Ship currently docks one mile to the south at Lake Erie Metropark Marina, but frequently cannot access it because of low water levels. The Refuge Gateway boat dock is intentionally designed to provide sufficient, predictable water depths for their 50' vessel. This alternative is projected to substantially improve fishing, environmental education, wildlife observation, and interpretation opportunities. Once the Visitor Center opens in fall 2016, refuge visitation is projected to increase substantially to tens of thousands of visitors annually.

4.1.5 Refuge Operations

Demand on refuge staff will increase through necessary trash removal, fishing regulation enforcement, etc. However, refuge staff have increased from four in 2014 and will reach seven in 2016, including a maintenance person. Again, this alternative is expected to substantially enhance visitor services and help realize the Urban Refuges Initiative goal of creating a connected conservation constituency.

4.1.6 Environmental Justice

None of the alternatives described in this Environmental Assessment will disproportionately place any adverse environmental, economic, social, or health impacts on minority or low-income populations.

This alternative would have positive impacts on low-income or minority populations. The boat dock and fishing pier will provide additional free outdoor wildlife viewing opportunities, fishing, interpretation, and improved environmental education opportunities. These resources are within short driving distances of low-income and minority populations in the region.

4.1.7 Cultural Resources

The facility would be located on a former brownfield that has been highly manipulated over time with fill introduced prior to Chrysler's occupancy and additional fill to cap the site for clean-up. Since becoming the Refuge Gateway, it has been cleaned up to meet human health and wildlife standards and habitats are being restored to serve as an ecological buffer for Humbug Marsh.

4.1.8 Cumulative Impacts

No long term cumulative impacts would occur to cultural resources or to any wildlife species due to activities associated with this alternative or similar action by the Service or other agencies.

Overall, implementation of the site master plan for the Refuge Gateway, including the proposed alternative of the boat dock and fishing pier, would result in a net gain of 16 acres of wetlands and 25 acres of riparian buffer habitat. The master plan was developed with the specific intent of restoring habitats to protect Humbug Marsh and to provide an exceptional conservation and outdoor recreational experience to help develop the next generation of conservationists in urban areas because that is now where 80% of all U.S. citizens live. In addition to a net gain of habitats, this facility will ensure long-term investment by the public to learn and steward the surrounding habitats.

Public use, the amount of public use facilities, and educational resources and opportunities would all increase substantially under this alternative. Other related environmental facilities locally in the area include the Environmental Interpretive Center at the University of Michigan-Dearborn, Lake Erie Metropark Marshlands Museum, and Ojibway Nature Centre. While these facilities offer public interpretation displays, none are alone sufficient to serve nearly seven million people. Future visitor or educational facilities by other agencies would have cumulative positive effects on the local area, for public education, recreation, and wildlife observation, as well as the local economy by increasing regional visitation.

4.2 Alternative 2: Floating Fishing Platforms Anchored Along the Refuge Gateway Shoreline during Ice-Free Conditions

4.2.1 Habitat Impacts

Under this alternative, Wayne County, the U.S. Fish and Wildlife Service, and partners would construct and install two 25-foot floating fishing platforms along the Refuge Gateway shoreline. Under this alternative, there would be no dock for the Great Lakes School Ship run by Michigan Sea Grant and therefore environmental education programming could not be offered through the Great Lakes school ship. The water depths along the shoreline are very shallow and could not provide the minimum critical water depth of six feet (for the school ship). Further, this alternative would only provide a shore fishing experience for panfish. The deeper waters off the Refuge Gateway and Humbug Marsh are well known as part of the "Walleye Capital of the World" and could not be accessed by the floating fishing platforms. No world-class shore fishing experience for trophy walleye could be offered. Such shallow water panfishing would not be consistent with the goal of providing a quality fishing experience that will help inspire the next generation of conservationists in urban areas.

Impacts on bottomlands would be minimal, if any. Through the entire Refuge Gateway master plan, a total of 16 acres of wetlands have been restored on site (in an area has lost 97% of its coastal wetland habitat) and 25 acres of riparian buffer habitat have been restored, representing a substantial net in aquatic habitat.

4.2.2 Biological Impacts

Fish and wildlife would only be impacted minimally because of the installation of two 25-foot floating fishing platforms along the Refuge Gateway shoreline. This alternative would minimally impact emergent and submergent habitat recently restored along the 50' of the Refuge Gateway shoreline proposed for the two 25-foot fishing platforms.

4.2.3 Listed, Proposed, and Candidate Species

No listed species are known to occur on the Refuge.

4.2.4 Public Use

Under this alternative, shore fishing for panfish would be enhanced, but there would be no dock for the Great Lakes School Ship run by Michigan Sea Grant and therefore environmental education programming could not be offered through the Great Lakes school ship. There would also be no shore fishing for trophy walleye and this would not be consistent with the Urban Refuges Initiative standards necessary to inspire the next generation of conservationists in urban areas. The floating platforms would not enhance access to the fall raptor migration for visitors of the Refuge Gateway.

4.2.5 Refuge Operations

Demand on refuge staff will increase slightly through necessary trash removal, fishing regulation enforcement, etc. However, refuge staff has increased from four in 2014 to seven in 2016, including a maintenance person. Again, this alternative is expected to substantially enhance visitor services and help realize the Urban Refuges Initiative goal of creating a connected conservation constituency.

4.2.6 Environmental Justice

None of the alternatives described in this Environmental Assessment will disproportionately place any adverse environmental, economic, social, or health impacts on minority or low-income populations.

This alternative would have positive impacts on low-income or minority populations. The boat dock and fishing pier will provide additional free outdoor wildlife viewing opportunities, fishing, interpretation, and improved environmental education opportunities. These resources are within short driving distance of low-income and minority populations in the region.

4.2.7 Cultural Resources

These two fishing platforms would be located on a former brownfield that has been highly manipulated over time with fill introduced prior to Chrysler's occupancy and further fill to cap the site for clean-up. Since becoming the Refuge Gateway, it has been cleaned up to meet human health and wildlife standards and habitats restored to serve as an ecological buffer for a Humbug Marsh.

4.2.8 Cumulative Impacts

No long term cumulative impacts would occur to cultural resources or to any wildlife species due to activities associated with this alternative or similar action by the Service or other agencies.

Overall, implementation of the site master plan for the Refuge Gateway, including the proposed alternative of the boat dock and fishing pier, would result in a net gain of 16 acres of wetlands and 25 acres of riparian buffer habitat. The master plan was developed with the specific intent of restoring habitats to protect Humbug Marsh and to provide an exceptional conservation and outdoor recreational experience to help develop the next generation of conservationists in urban areas because that is now where 80% of all U.S. citizens live. Although there would be a a net gain of habitats as in Alternative 1, this facility will not ensure long-term investment by the public to learn and steward the surrounding habitats since the floating platforms have less utility and will serve fewer people.

Public use, the amount of public use facilities, and educational resources and opportunities would all increase slightly. Other related environmental facilities locally in area include the Environmental Interpretive Center at the University of Michigan-Dearborn and Lake Erie Metropark Marshlands Museum, and Ojibway Nature Centre. While these facilities offer public interpretation displays, none are alone sufficient to serve nearly seven million people. Future visitor or educational facilities by other agencies would have cumulative positive effects on the local area, for public education, recreation, and wildlife observation, as well as the local economy by increasing regional visitation.

4.3 Alternative 3: No Action

4.3.1 Habitat Impacts

No new development would occur. There would be no impacts to existing habitats from construction activities.

4.3.2 Biological Impacts

No impact to wildlife would occur due to construction activities.

4.3.3 Listed, Proposed, and Candidate Species

No impact to wildlife would occur due to construction activities.

4.3.4 Public Use

Shore fishing would remain unchanged. The Great Lakes School Ship program might be negatively impacted because its current docking facilities at Lake Erie Metropark Marina are frequently too shallow for boat access. Therefore, under this alternative fishing, environmental education, wildlife observation, and interpretation opportunities would either decrease of remain the same, and not achieve the Urban Refuges Initiative goals.

4.3.5 Refuge Operations

Demand on refuge staff would not change under this alternative.

4.3.6 Environmental Justice

None of the alternatives described in this Environmental Assessment will disproportionately place any adverse environmental, economic, social, or health impacts on minority or low-income populations.

This alternative would have no impacts on low-income or minority populations. However, there would be no greater access to outdoor recreation and education.

4.3.7 Cultural Resources

No construction is planned for this alternative, therefore, no historic properties nor other cultural resources would be impacted.

4.3.8 Cumulative Impacts

No long term cumulative impacts would occur to cultural resources or to any wildlife species due to activities associated with this alternative or similar action by the Service or other agencies.

No loss of habitat would be lost under this alternative.

There would be long-term negative cumulative impacts to public use and educational resources and opportunities. Urban Refuges Initiative goals would potentially not be realized in Metropolitan Detroit.

4.4 Summary of Environmental Consequences by Alternative

Actions	**Alternative 1 (Preferred)**	**Alternative 2 (Alternative Site)**	**Alternative 3 (No Action)**
Habitat lost to construction	Minimal; overall net gain of wetland habitat through implementation of Refuge Gateway master plan	Minimal; overall net gain of wetland habitat through implementation of Refuge Gateway master plan	None
Impact on Wildlife	Minimal, if any	Minimal, if any	None
Improved quality fishing opportunities	Yes (substantially)	Yes (minimally)	None
Increased public use facilities and interpretation/wildlife observation	Yes (substantially)	Yes (minimally)	None
Enhanced environmental education through the Great Lakes School Ship program	Yes	None	None
ADA Compliance	Improved; Satisfies codes	Improved; Satisfies codes	No change
Positive effect on minority populations	Yes (substantially)	Yes (minimally)	None

Economic Impacts	Positive (substantial)	Positive (minimal)	No change
Impact on cultural resources	None	None	None
Achievement of Urban Refuges Initiative goals and standards	Substantially	Minimally	No
Cumulative Impacts	No impacts on cultural resources or fish/wildlife species; public use would increase substantially	No impacts on cultural resources or fish/wildlife species; public use would increase minimally	No impacts on cultural resources or fish/wildlife species; negative impacts on public use

Chapter 5: References

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Chapter 6: List of Preparers

6.1 List of Preparers

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Chapter 7: Public Comment and Response

7.1 Public Comment and Response

FINDING OF NO SIGNIFICANT IMPACT

ENVIRONMENTAL ASSESSMENT: Visitor Center for the Detroit River International Wildlife Refuge

An Environmental Assessment (EA) has been prepared to evaluate three alternatives concerning a boat dock and fishing pier for the Detroit River International Wildlife Refuge. The EA examined the environmental consequences that each management alternative could have on the quality of the physical, biological, and human environment, as required by the National Environmental Policy Act of 1969 (NEPA).

Alternative 1 was identified as the proposed action. Wayne County, the U.S. Fish and Wildlife Service, and partners would construct a 200-foot fishing pier at the end of a 775-foot boardwalk off the Refuge Gateway in Trenton, Michigan, consistent with the Comprehensive Conservation Plan for the Detroit River International Wildlife Refuge. Wayne County owns 40 acres of the 44-acre Refuge Gateway, with the remaining four acres owned by U.S. Fish and Wildlife Service for construction of the Visitor Center. The Refuge Gateway is a former automotive manufacturing site that has been cleaned up and restored to meet all applicable state and federal standards for human health and wildlife.

This alternative proposes a free, universally accessible, shore-based fishing experience. This alternative can accommodate 80 anglers, a floating dock, seating areas, shade structures, and interpretive signage. Areas accessible from the boardwalk include shallow waters rich with panfish for youth and family fishing, and deepwater access for experienced anglers. The shore-based entrance to the boat dock and fishing pier will allow the public to fish in water depths currently only available to those with a watercraft.

An Intra-Service Section 7 Biological Evaluation was completed with the finding of a "No Effect" determination of threatened and endangered species in Region 3.

For these reasons presented above, and based on an evaluation of the information contained in the Environmental Assessment, we have determined that the action of adopting Alternative 1 as the management action for Region 3 of the U.S. Fish and Wildlife Service is not a major Federal action which would significantly affect the quality of the human environment, within meaning of Section 102(2)(C) of the National Environmental Policy act of 1969.

Supporting references:

Environmental Assessment
Intra-Service Section 7 Biological Evaluation

_____ _____

Regional Director Date